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AUTHOR Brownell, Gregg; O'Bannon, Blanche; Brownell, Nancy
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ABSTRACT

In the spring of 1998, the Master's program in Classroom Technology at Bowling Green State University (Ohio) was granted conditional approval to grant, as part of the program, the new State of Ohio Department of Education computer/technology endorsement. This paper briefly describes Ohio's change from certification to licensure, the removal of relevant previous certificates (e.g., computer science), and the licensure/endorsement model. Further, the specifics of the computer/technology endorsement as covered in the Classroom Technology Master's program are described, as well as the process of moving from conditional to full approval (which is expected in the winter of 1999). Lastly, the recent OhioSchoolNet (a separate state agency) program of awarding novice, practitioner, and scholar technology certificates to teachers is explained in relation to the state computer/technology endorsement. (Author/AEF)

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Implementing a Computer/Technology Endorsement in a Classroom Technology Master's Program

Gregg Brownell

Department of Educational Curriculum and Instruction
Bowling Green State University
USA
gbrowne@edhd.bgsu.edu

Blanche O'Bannon

Department of Educational Curriculum and Instruction
Bowling Green State University
USA
obannon@bgnet.bgsu.edu

Nancy Brownell

Department of Educational Curriculum and Instruction
Bowling Green State University
USA
nbrowne@bgnet.bgsu.edu

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Abstract: In the spring of 1998, the Master's program in Classroom Technology at Bowling Green State University was granted conditional approval to grant, as part of the program, the new State of Ohio Department of Education computer/technology endorsement. This paper briefly describes Ohio's change from certification to licensure, the removal of relevant previous certificates(e.g., computer science), and the licensure/endorsement model. Further, the specifics of the computer/technology endorsement as covered in the Classroom Technology Master's program, are covered, as well as the process of moving from conditional to full approval(which is expected in the winter of 1999). Lastly, the recent OhioSchoolNet (a separate state agency) program of awarding novice, practitioner and scholar technology certificates to teachers is explained in relation to the state computer/technology endorsement.

Introduction

Through early national reports and studies (Gardner, 1983; Martinez & Mead, 1988) as well as a realization that technology is an empowering force in modern society and therefore a necessary component of the schooling experience (Marshall & Bannon; 1988, Naron & Estes, 1986; Gilder, 1993), the importance of technology in schooling has been well established. As a component of this interest in technology and learning, organizations such as the Society for Information Technology and Teacher Education (SITE), and the International Society for Technology in Education (ISTE) began, in the decade of the 90's, to establish formal means for preparing both inservice and preservice teachers to use technology with students. An outgrowth of this interest was, for teachers, a set of national guidelines in computer education developed by the International Society for Technology in Education and adopted by the National Council for Accreditation of Teacher Education(NCATE), (ISTE, 1992; NCATE, 1992; Thomas, 1993). As could be expected, these guidelines have become part of both preservice and inservice programs in teacher education (Brownell & Brownell, 1998; Brownell, Haney & Sternberg, 1997; Handler & Strudler, 1997; Strudler, Handler, & Falba, 1998) and have helped to spur relevant endorsements to teacher's licenses and certificates at the state level (Ohio Department of Education, 1996). This paper presents a brief overview of the implementation of the State of Ohio Department of Education computer/technology endorsement within a Master's program in Classroom Technology at Bowling Green State University.

The Program

The Master of Education program in Classroom Technology (described in more detail in Brownell, Haney & Sternberg, 1997) is based upon the ISTE standards (ISTE, 1992; NCATE, 1992). The program comprises 33 semester hours and is designed for the working professional to take over a 26 month period. Participants take courses over fall and spring semesters, as well as oversummers, in a prescribed sequence. A list of courses in the program, presented in the currently prescribed sequence, follows.

EDCI631 Survey of Computers in Education (3)
EDCI611 The Curriculum (3)
EDCI633 Hypermedia for Educators I (3)
EDCI634 Hypermedia for Educators II (3)
EDCI635 Classroom Technology, Problem Solving, and the Curriculum (3)
EDCI636 Networks for Learning (3)
EDCI632 Classroom Technology Planning in Education (3)
EDFI641 Statistics in Education (3)
EDFI642 Research in Education (3)
EDCI637 Distance Learning and Education (3)
EDCI638 Seminar on Classroom Technology and Learning (3)

Originally, the program was designed so that there were seven required core courses and four suggested courses, as follows.

Required core:

EDCI 631 Survey of Computers in Education (3)
EDCI632 Classroom Technology Planning in Education (3)
EDCI633 Hypermedia for Educators I (3)
EDCI611 The Curriculum (3)
EDFI641 Statistics in Education (3)
EDFI642 Research in Education (3)
EDCI638 Seminar on Classroom Technology and Learning (3)

Suggested:

EDCI 634 Hypermedia for Educators II (3)
EDCI635 Classroom Technology, Problem Solving, and the Curriculum (3)
EDCI636 Networks for Learning (3)
EDCI637 Distance Learning and Education (3)

In this design, students were allowed to substitute approved electives for up to all four of the suggested courses. This option will still be available to students in the program who elect to not gain the computer/technology endorsement, but will not be an option, as explained below, for students seeking the endorsement.

From Certification to Licensure

In 1997, Ohio changed from a state which offered the standard elementary, secondary, etc., certification to its teachers to a state which now offers a teaching license in one of three areas: early childhood, middle childhood, and adolescence to young adult. It is beyond the scope of this paper to discuss the particulars of this change other than to note two pertinent points. First, in doing so, the Ohio State Department of Education did away with the previous computer science certification (which required, essentially, a bachelor's degree in computer science plus relevant education course work, methods experiences, and student teaching); and second, a computer/technology endorsement was created.

Presently, as far as we have been able to determine through the state, there are no plans for a computer science endorsement to replace the withdrawn computer science certificate. It should be noted, however, that the state is currently investigating this (possible) oversight with an eye towards taking corrective action in the future.

The Computer/Technology Endorsement

The computer/technology endorsement is based on the ISTE Standards. The endorsement is granted to an applicant who holds a valid Ohio teacher certificate or license at the grade level for which the certificate or license is held.

In the spring of 1998, six course syllabi (complete with course description and objectives) were submitted to the state to obtain permission to grant the endorsement. Also included was a grid identifying each ISTE Standard and the course or courses that covered the standard. The six courses were (obviously) chosen from among the program offerings because they most closely were in alignment with the ISTE Standards as specified by the state. The six courses are:

EDCI 631 Survey of Computers in Education (3)
EDCI 633 Hypermedia for Educators I (3)
EDCI 634 Hypermedia for Educators II (3)
EDCI 635 Classroom Technology, Problem Solving, and the Curriculum (3)
EDCI 636 Networks for Learning (3)
EDCI 632 Classroom Technology Planning in Education (3)

In late spring, 1998, the program received conditional approval to grant the endorsement. Conditional approval means the program can grant the endorsement but must also file a rejoinder to address several areas where the state desired clarification. In mid-October, 1998, the rejoinder was filed and the response from the state (full approval, it is hoped) is expected by mid-December, 1998.

The rejoinder took the form, for each of the six courses, of a course description (the same as the original course description) coupled to a set of revised objectives for the course. Mostly, what was already being done in the course was explicated for sake of clarity, while in some instances new objectives were written which aligned with both the ISTE standard under consideration and the original course description. Additionally, an updated grid of ISTE Standards (as supplied by the state) and the course or courses which covered each given standard, was supplied to the state. (*Please note:* During the presentation we will supply a relevant, current web address for one of the author's (Blanche O'Bannon's) home page where a link will be available to view, from March 1, 1999, through January 1, 2000, the full set of course descriptions/objectives and the full ISTE Standards/Course Implementation grid.) Table 1, below, offers a sample course description and associated objectives.

EDCI 636 - Networks for Learning (3) - Intensive investigation of and experiences with tools to access, and resources available on, the Internet. Creation of Web pages. Applications across the curriculum. Investigation of relevant issues regarding privacy, censorship, commercialism and proprietary rights. Prerequisite: EDCI 631 - Survey of Computers in Education.

EDCI 636 - Networks for Learning- Objectives:

1. Understand the current state of resources on the Internet including the World Wide Web, telnet, gopher, file transfer protocol and how these tools are utilized in K - 12 education, as well as projections for the growth and evolution of this resource.
2. Understand the evolving state of audio and video communications over the Internet.
3. Investigate and use a wide range of resources available through the Internet including the World Wide Web.
4. Observe, and discuss, the use of networks with students in a relevant K-12 setting.

5. After investigating and evaluating relevant web sites for use in K-12 education, develop and practice delivering a series of collaborative learning experiences to teach diverse student populations to use web sites in one or more content areas.
6. Produce a product for teacher use in an area of management or preparation for teaching, that makes use of a number of network resources.
7. Gain HTML skills, and associated design skills, in order to develop 1) a personal web page and 2) a public web site related to education.
8. Understand, conceptually, the specifics of the process of linking web sites.
9. Understand and analyze various positions related to networks and the following relevant issues: privacy, equity, censorship, commercialism, proprietary rights, and other legal issues.
10. Become familiar with, demonstrate an understanding of, and practice, various methods for teaching about and integrating electronic networks into the classroom for diverse student populations.
11. Become familiar with, and demonstrate an understanding of, the current literature on the use of electronic networks in the classroom, regarding best practice.
12. Become familiar with, and demonstrate an understanding of, the current literature on the use of electronic networks in the classroom, regarding current research on such use.
13. Demonstrate knowledge of communication/research at a distance, and educational collaboration at a distance, through the collaborative use of e-mail, listservs, automated search tools to locate specific information, and through awareness of Internet-based/web-based courses.
14. Observe demonstrations/uses of broadcast instruction and audio/visual conferencing.
15. Use devices such as scanners and digital cameras in development of a web page.
16. Demonstrate a knowledge of web-based resources to support the use of technology with special needs students.
17. Locate and describe current, relevant software packages used to operate computer network systems.
18. Investigate and evaluate web sites and other networked resources regarding lifelong learning and distance education opportunities.
19. Understand and develop school/lab responsible use policies and procedures regarding the use of computers/technology, including the use of local and wide area networks, addressing issues including (among others) ethics, equity, privacy, equipment care and maintenance.

Table 1. A Sample Course Description and Objectives

Implementation

With the graduation of the first cohort of students from the program in December of 1998, it is expected that the first set of endorsements will be granted in the early spring. In the future, students in the program may opt for earning the endorsement within the program, in which case all courses in the program except EDCI 637 - Distance Learning, will be required. If students opt to forego the endorsement, they will be able to substitute up to 12 credits of valid electives in place of the 12 credits of "Suggested," courses identified above. There are currently, due to a lack of sufficient hardware/software and personnel resources, no plans to offer the endorsement outside of the Master's program.

Interestingly, SchoolNet, a state program within Ohio which has been funded by the legislature for over 500 million dollars and is charged with supplying equipment, wiring and teacher training regarding technology to Ohio's schools, has begun offering novice, practitioner and scholar technology certificates to teachers. Historically, since SchoolNet and the State Department of Education are separate units within the state, there appears to have been little, if any, coordination between the SchoolNet certificate program and the Department of Education endorsement in computers/technology. Although SchoolNet does not have credentialing authority, many individuals are currently working to bring some coordinated effort to both the excellent work SchoolNet

has been doing and the fine initiatives coming from the State Department of Education. Such a coordinated effort in the area of technology and teacher education would only benefit the teachers and students of Ohio.

Conclusion

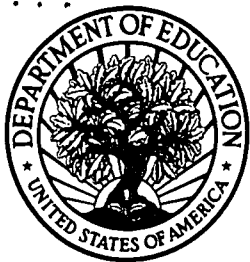
The foresight of the individuals involved in the ISTE effort to establish technology and teacher education standards at both the preservice and inservice levels, and in successfully presenting those standards to NCATE, has been a boon to those involved in technology and teacher education. The design of the program referenced here, as well as the adoption by Ohio of the ISTE Standards regarding the Ohio computer/technology endorsement, have nicely dovetailed to serve the teachers within our service area. By doing so, we make good things possible with technology to all the groups we serve including teachers, students, and the population at large.

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- Gregg Brownell is a Professor in the Department of Educational Curriculum and Instruction in the College of Education and Human Development at Bowling Green State University in Bowling Green, Ohio. He may be reached at: Department of EDCI, College of Education and Human Development, Bowling Green State University, Bowling Green, Ohio 43403, (419) 372-9546, gbrowne@edhd.bgsu.edu.

Blanche O'Bannon is an Assistant Professor in the Department of Educational Curriculum and Instruction in the College of Education and Human Development at Bowling Green State University in Bowling Green, Ohio. She may be reached at: Department of EDCI, College of Education and Human Development, Bowling Green State University, Bowling Green, Ohio 43403, (419) 372-7394, obannon@bgnet.bgsu.edu.

Nancy Brownell is a Lecturer in the Department of Educational Curriculum and Instruction in the College of Education and Human Development at Bowling Green State University in Bowling Green, Ohio. She may be reached at: Department of EDCI, College of Education and Human Development, Bowling Green State University, Bowling Green, Ohio 43403, (419) 372-7359, nbrowne@bgnet.bgsu.edu.



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